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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/543,028	07/21/2005	Emmanuel Legrand	047578/294908	8430
826 7590 05/01/2009 ALSTON & BIRD LLP BANK OF AMERICA PLAZA 101 SOUTH TRYON STREET, SUITE 4000 CHARLOTTE, NC 28280-4000			EXAMINER ALIE, GHASSEM	
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			3724	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/543,028

**Applicant(s)**

LEGRAND, EMMANUEL

**Examiner**

GHASSEM ALIE

**Art Unit**

3724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 February 2009.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 and 13 is/are pending in the application.  
4a) Of the above claim(s) 13 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-9 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 05 September 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☒ Certified copies of the priority documents have been received in Application No. 10/543,026.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 02/03/09 and 04/21/09  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

***Election/Restrictions***

1. Newly submitted claim 13 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: e. g. claim 5 which has been originally presented and examined and newly submitted claim 13 are related as subcombinations disclosed as usable together in a single combination.

I. Claim 5, drawn to a cutting head that includes, e.g., two strings are provided exiting in a first plane in diametrically opposed regions, and two strings exiting in a second plane adjacent to the first in diametrically opposed regions.

II. Claim 13, drawn to cutting device including a cutting head having string outlets that are at the same plane in each plane, and in all planes the direction of rotation of the head is the same.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, e.g., subcombination I has a separate utility such as it could be used without the above-mentioned features set forth in invention II. Conversely, subcombination II has a separate utility such as it could be used without the above-mentioned features set forth in invention I. See MPEP § 806.05(d).

The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found

allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

3. Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

(a) the inventions have acquired a separate status in the art in view of their different classification;

(b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;

(c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);

(d) the prior art applicable to one invention would not likely be applicable to another invention;

(e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 13 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 1-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claim 1, “any tow planes are axially spaced from each other by a distance that is greater than or equal to approximately 1.8 times the height of each string outlet” has not been disclosed in the original disclosure. Original disclosure does not disclose that the distance between two central axes of the string outlets is equal or approximately 1.8 times the height of the string outlet or approximately 5 times of each string out let, as set forth in claim 2.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-4, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Jones et al. (4,905,465), hereinafter Jones '465. Regarding claim 1, Jones '465 teaches a cutting head "A" for a brush cutter or an edge trimmer including a plurality of discrete string channels "F" through the cutting head for a plurality of cutting strings "E" to pass through, each string channel defining a string outlet for exit of respective cutting string from the cutting head, each string outlet having a height in an axial direction parallel to a rotation axis of the cutting head. It should be noted that the plurality of channels and string outlets are defined by the top holes in a row and the bottom hole in a row, as shown in Fig. 13. The holes adjacent to the top row holes and bottom row holes are considered to be a plurality of string inlets. In this case, any two of the central planes of the string outlets are spaced from each other by a distance that is approximately 1.8 times the height of each string outlet. See Fig. 13 in Jones '465. Jones '465 also teaches that the strings outlets are distributed and configured such that center axes of the string outlets are distributed in a plurality of planes that are perpendicular to the rotation axis and are spaced apart in the axial direction, and such that any two of the planes are axially spaced from each other by a distance that is greater than or equal to approximately 1.8 times the height of each string outlet.

Regarding claim 2, Jones '465 teaches everything noted above including that the at least two planes are mutually spaced by a distance less than or equal to approximately 5 times the height of each string.

Regarding claims 3-4, Jones '465 teaches everything noted above including that the peripheral direction of the head, the strings existing in a first plane are alternated with the string alternated with the strings exiting in a second plane adjacent to the first. Jones also teaches that the strings exit the head in a regularly distributed manner.

8. Claims 1-4, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Taylor (4,238,866). Regarding claim 1, Taylor teaches a cutting head for a brush cutter or an edge trimmer. It should be noted that the apparatus 1 in Taylor could be used for trimming or cutting grass. Taylor also teaches that the head includes a plurality of distinct string channels through the cutting head for a plurality of cutting strings 54 to pass through, each string channel defining a string outlet for exit of the respective cutting string from the cutting head, each string outlet having a height in an axial direction parallel to a rotation axis of the cutting head. It should be noted that each channel is defined from a recess, shown in Fig. 2, to another opposite recess. The channel is individually distinct or discrete, since it extends two opposite outlets or recesses and a wall defined by respective screw 62. Taylor also teaches that the string outlets are distributed and configured such that center axes of the string outlets are distributed in a plurality of planes that are perpendicular to the rotation axis and are spaced apart in the axial direction, and such that any two of the planes are axially spaced from each other by a distance that is greater than 1.8 times the height or thickness of the string 54. Taylor also teaches that in each plane the respective

string outlets are at the same level, and in all planes the direction of rotation of the head is the same. See Figs. 1-2 in Taylor.

Regarding claim 2, Taylor teaches everything noted above including that the distance is between approximately 1.8 and approximately 5 times the height of each string outlet.

Regarding claims 3-4, Taylor teaches everything noted above including that the string outlets are located with respect to the peripheral direction of the head such that the strings exiting in a first plane are alternated with the string alternated with the strings exiting in a second plane adjacent to the first. Jones also teaches that the strings exit the head in a regularly distributed manner.

9. Claims 1-6, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Jones et al. (5,048,278), hereinafter Jones '278. Regarding claim 1, Jones '278 teaches a cutting head 'R' for a brush cutter or an edge trimmer including a plurality of discrete channels through the cutting head for a plurality of cutting strings 10 to pass through, each string channel defining a string outlet for exit of the respective cutting string from the cutting head, each string outlet having a height in an axial direction parallel to a rotation axis of the cutting head. It should be noted that the outlets are defined by the ends of the channels 16 and 17, as shown in Fig. 3. The channels 16 and 17 are at different levels. Jones '278 also teaches that string outlets are distributed such that center axes of the string outlets are distributed in a plurality of planes that are perpendicular to the rotation axis and are spaced apart in the axial direction, and such that any two planes are axially spaced from each other by a distance that is greater than or equal to approximately 1.8 times the height of each



outlet. It should be noted that the outlet defined with one of the channel 16 and the outlet defined by another channel 17 have central axes that are spaced from each other by a distance that is greater than 1.8 times the height of each outlet.

Regarding claim 2, Jones '278 teaches everything noted above including that the distance is between approximately 1.8 times to approximately 5 times the height of each string outlet.

Regarding claims 3-4, Jones '278 teaches everything noted above including that the string outlets are located with respect the peripheral direction of the head such that the strings existing in a first plane are alternated with the string alternated with the strings exiting in a second plane adjacent to the first. Jones '278 also teaches that the strings exit the head in a regularly distributed manner.

Regarding claims 5-6, Jones '278 teaches everything noted above including that the strong outlets are located such that two strings outlets are provided in a first plane in diametrically opposed regions, and two string outlets are provided in a second plane adjacent to the first, in diametrically opposed regions also, in the string outlets are distributed approximately 90 degrees in the peripheral direction. Jones '278 also teaches configured to use with cutting strings 10 each of which has a ridge, and in that the head includes means 30 for maintaining each string in an orientation such that the ridge is in a position to lead the attack on plants. It should be noted that the string 10 three ridges since it has triangular shape. Therefore, one of the ridges is always oriented in a position to lead the attack on plants.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-4, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al. (4,905,465), hereinafter Jones '465. Regarding claim 1, Jones '465 teaches a cutting head "A" for a brush cutter or an edge trimmer including a plurality of discrete string channels "F" through the cutting head for a plurality of cutting strings "E" to pass through, each string channel defining a string outlet for exit of respective cutting string from the cutting head, each string outlet having a height in an axial direction parallel to a rotation axis of the cutting head. Jones '465 also teaches that the strings outlets "E" are distributed and configured such that center axes of the string outlets are distributed in a plurality of planes that are perpendicular to the rotation axis and are spaced apart in the axial direction. Jones '465 also teaches that in each plane the respective string outlets are at the same level, and in all planes the direction of rotation of the head is the same. See Figs. 1-18 in Jones '465. Jones '465 does not explicitly teach that each any two planes are axially spaced from each other by a distance that is greater or equal to approximately 1.8 times the height of each string outlet. It should be noted that the space between the two adjacent planes does not appear to be 1.8 times the height of the string outlet. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the distance between the planes or the height of the string in a manner that the distance between

the two planes is 1.8 times or greater than the height of the string in Jones '465, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 2, Jones '465 teaches everything noted above including that the at least two planes are mutually spaced by a distance less than or equal to approximately 5 times the height of each string.

Regarding claims 3-4, Jones '465 teaches everything noted above including that the peripheral direction of the head, the strings existing in a first plane are alternated with the string alternated with the strings exiting in a second plane adjacent to the first. Jones also teaches that the strings exit the head in a regularly distributed manner.

To the degree that it could be argued that Jones '278 does not explicitly or positively teach that the distance between the two planes is greater or equal to approximately 1.8 times the height of the string, the rejection below is applied.

12. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al. (5,048,278), hereinafter Jones '278. Regarding claim 1, Jones '278 teaches substantially the claimed invention. However, Jones '278 does not explicitly teach that the distance between the planes is greater or equal 1.8 times the height of the string. Jones '278 teaches a distance between the planes that appears to be 1.8 times the height of the string outlet; Jones '278 does not positively disclose that the distance between the any two planes is 1.8 times or greater than the height of the string outlet. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the distance

between the two planes or the height of the string outlet in a manner that the distance between the two planes is 1.8 times or greater than the height of the string outlet, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 2, Jones '278 teaches everything noted above including that the distance is between approximately 1.8 times to approximately 5 times the height of each string outlet.

Regarding claims 3-4, Jones '278 teaches everything noted above including that the string outlets are located with respect the peripheral direction of the head such that the strings existing in a first plane are alternated with the string alternated with the strings exiting in a second plane adjacent to the first. Jones '278 also teaches that the strings exit the head in a regularly distributed manner.

Regarding claims 5-6, Jones '278 teaches everything noted above including that the strong outlets are located such that two strings outlets are provided in a first plane in diametrically opposed regions, and two string outlets are provided in a second plane adjacent to the first, in diametrically opposed regions also, in the string outlets are distributed approximately 90 degrees in the peripheral direction. Jones '278 also teaches configured to use with cutting strings 10 each of which has a ridge, and in that the head includes means 30 for maintaining each string in an orientation such that the ridge is in a position to lead the attack on plants. It should be noted that the string 10 three ridges since it has triangular

shape. Therefore, one of the ridges is always oriented in a position to lead the attack on plants.

13. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones '278 in view of Fogle (5,463,815). Regarding claim 7, Jones '278 teaches everything noted above except that each string is substantially square. However, the use of circular, square, and other shapes of strings is well known in the art such as taught by Fogle. See Figs. 1-8 in Fogle. It would have been obvious to a person of ordinary skill in the art to provide the cutting head of Jones '278 with square-shaped strings, as taught by Fogle, since different shape of strings works the same as clearly taught by Fogle, and one can be substituted for another.

14. Claims 8-9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones '278 in view of Rouse (4,756,146). Regarding claims 8-9, Jones '278 teaches everything noted above except the head is implemented by asserting parts of general disc shape defining string semi-channels opposite one another. It should be noted that Jones '278 teaches that the head is formed from one disc shape part. However, the use of head formed from two disc shape parts is well known in the art such as taught by Rouse. See Figs. 1-4 in Rouse. It would have been obvious to a person of ordinary skill in the art to form the cutting head of Jones '278 from two disk shape parts as an alternative manner that facilitates replacement of the strings.

#### ***Response to Amendment***

15. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ghassem Alie whose telephone number is (571) 272-4501. The examiner can normally be reached on Mon-Fri 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, SEE <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-

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Representative or access to the automated information system, call 800-786-9199 (IN USA

OR CANADA) or 571-272-1000.

/Ghassem Alic/

Primary Examiner, Art Unit 3724

April 30, 2009